ZENTRALE VERTRAGSKUNDENDIENSTE + ERSATZTEILE-LAGER
Rudolf Hemmersbach
Rohrmannstraße 12 · 8500 Nürnberg 80 · Tel. (0911) 26 84 81 · Telex 06 23 856 FSHEM

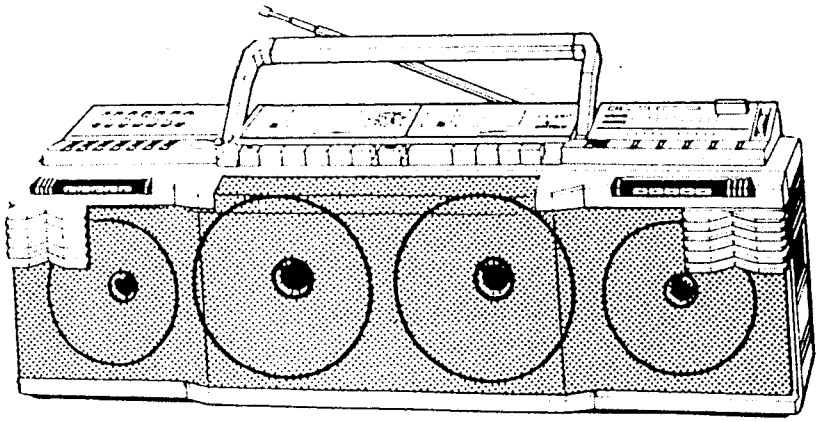
AW05

Service

Frontech

CX-480

STEREO RADIO
DOUBLE CASSETTE RECORDER
WITH 3-WAY 6-SPEAKER SOUND



SERVICE MANUAL

WARING:

For continued safety the following precautions to be followed during servicing

1. Make sure power cord is disconnected before replacing any parts.
2. Replace with same type, critical parts with ⚠ mark on this diagram.
3. The following test must be implemented after each repair before returning it to customer.
   Use an ohm-meter to measure the D.C. resistance from both A.C. conductors to any exposed metallic parts such as a screw head, metal inlays etc. The resistance measured to be 10 megaohms minimum.

TABLE OF CONTENTS

1. CONTROL FUNCTIONS 3
2. HOW TO DISASSEMBLE THE MAIN PARTS 4
3. HOW TO FIT DIAL STRING 6
4. ADJUSTING THE TUNER 6
5. SEMICONDUCTOR INSTRUCTION 9
6. BLOCK DIAGRAM 11
7. SCHEAMTIC DIAGRAM 12
8. P.C.B VIEW 13
9. WIRING DIAGRAM 16
10. EXPLODED VIEW 17
11. DECK EXPLODED VIEW 18
12 ELECTRICAL PARTS LIST 20
13 EXPLODED PARTS LIST 23

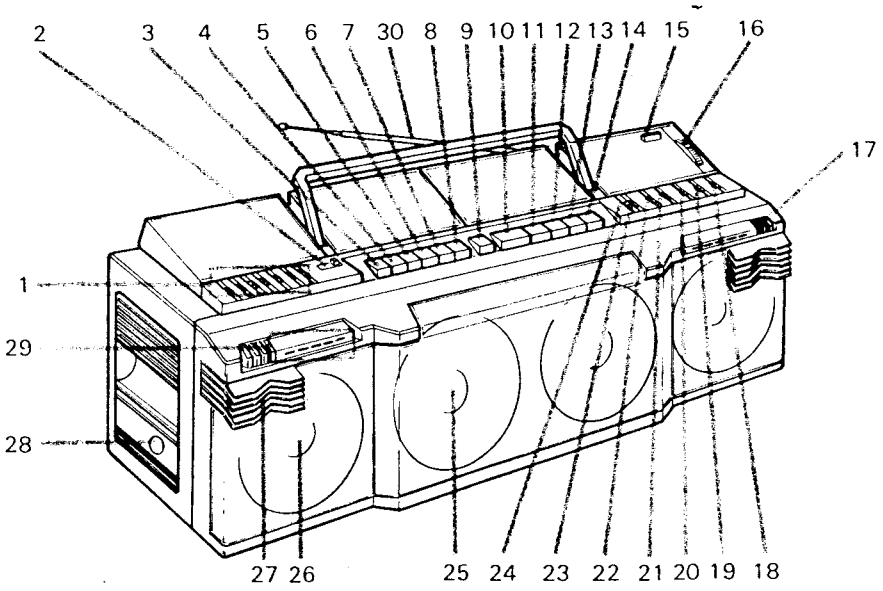
SPECIFICATION

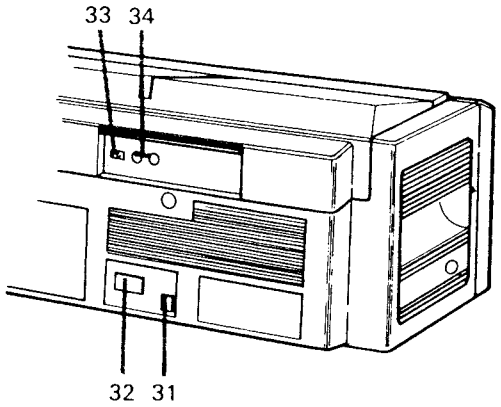
POWER SOURCE : 120V/60Hz
DC 12V ("D" CELL × 8)
POWER CONSUMPTION : 24W
OUTPUT POWER : RMS 16W AC OPERATION
MPO 16W AC OPERATION
PMPO 48W AC OPERATION
LOAD IMPEDANCE : HEADPHONES : 8 ohm-32 ohm
EXT. SPEAKER : 4 ohm
INPUT IMPEDANCE : EXT. MIC : 600 ohm
DIMENSIONS : 580(W) × 195(H) × 177(D)
WEIGHT : 5.8Kg (WITH OUT BATTERIES)

TAPE :
SIGNAL TO NOISE RATIO : 40dB
WOW & FLUTTER: 0.25% (WRMS)

RADIO:
AM(MW) : FREQUENCY : 530-1605KHz
SENSITIVITY (USABLE)
: 501uV (54dB)
T.H. DISTORTION : 0.8%
FM : FREQUENCY : 87.6-108MHz
SENSITIVITY (USABLE)
: 7uV (17dB)
T.H. DISTORTION : 0.4%
STEREO SEPARATION : 38dB

CONTROL FUNCTIONS



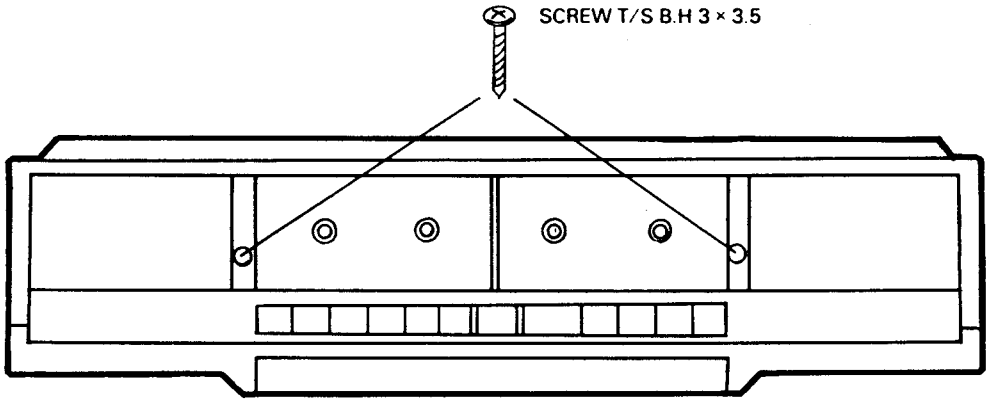


1. Graphic Equalizer Control
2. Tape Counter and Reset Button
3. Recording Button (●)
4. Play Button (▶)
5. Rewind Button (◀◀)
6. Fast Forward Button (▶▶)
7. Stop/Eject Button (■/⏏)
8. Pause Button (⏸)
9. Normal/High Speed Dubbing Switch
10. Play Button (▶)
11. Rewind Button (◀◀)
12. Fast Forward Button (▶▶)
13. Stop/Eject Button (■/⏏)
14. Pause Button (⏸)
15. Power Switch
16. Tuning Control
17. Condenser Mic
18. Band Selector
19. Mode Selector
20. Speaker Selector
21. Tape Selector
22. Function Selector
23. Balance Control
24. Volume Control
25. Speaker (L. R) 5¼"
26. Speaker (L. R) 4"
27. Tweeter (L. R)
28. Headphone Jack
29. Peak Power Level Indicator
30. Telescopic Antenna
31. DC Jack
32. AC IN Socket
33. Beat Cut Switch
34. Mic Jack (L. R)

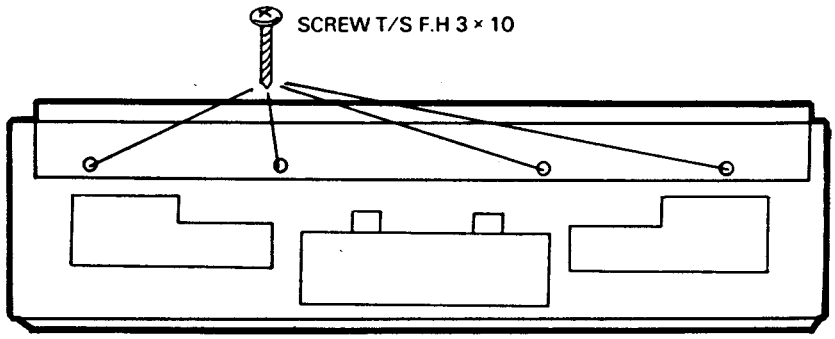
HOW TO DISASSEMBLE THE MAIN PARTS

1) TOP CABINET

1. Remove two screw (T/S B.H 3 × 3.5) Located on the top cabinet as shown in Fig 1.
2. Remove four screw (T/S F.H 3 × 10) Located at rear cabinet as shown in Fig 2.



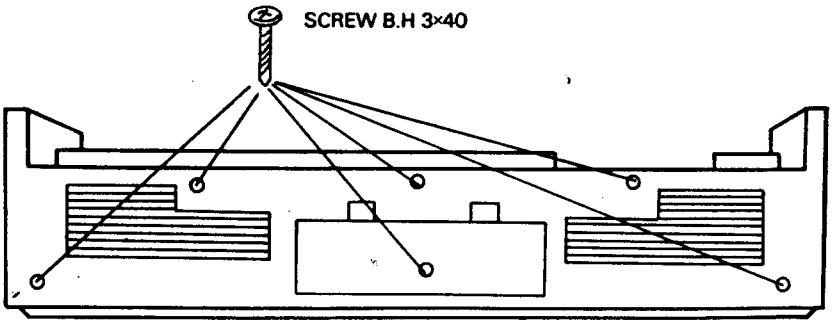
(FIG 1)



(FIG 2)

2) FRONT CABINET

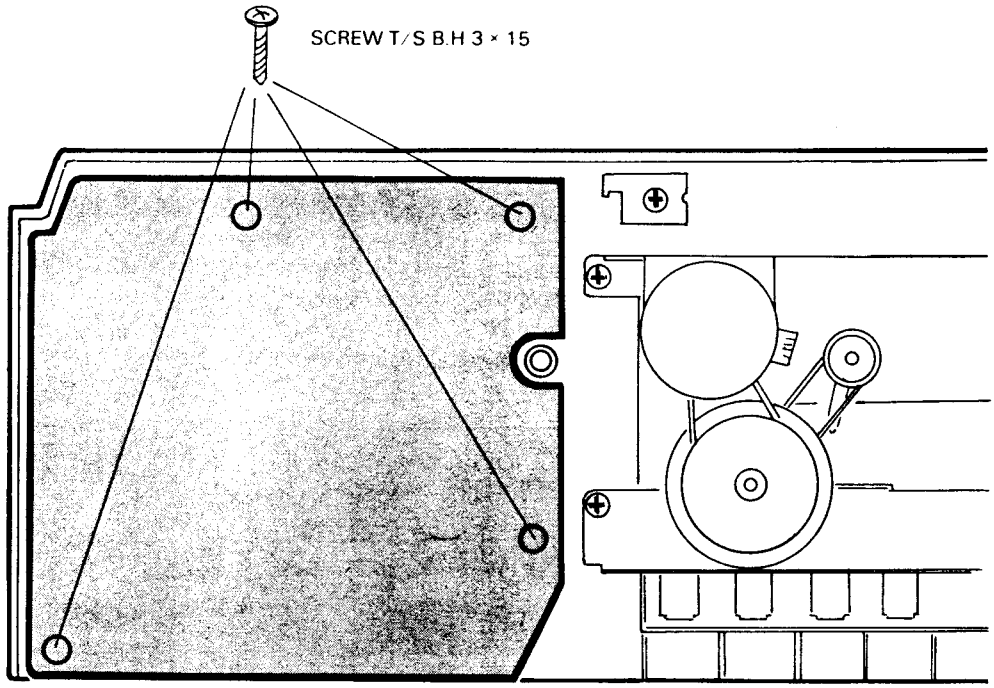
1. Remove Six screw (B.H 3 × 40) Located at rear cabinet as shown Fig 3.
2. It is necessary to remove for all lead wire connector pin take off.



(FIG3)

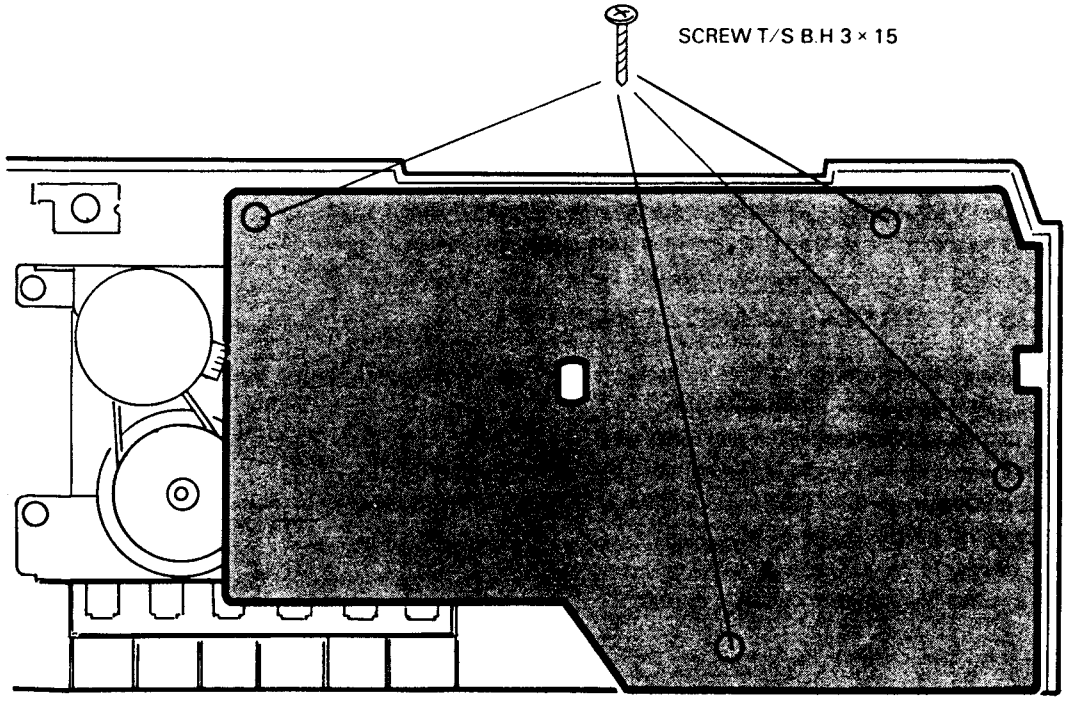
3) TUNER PCB

Remove 4 screw (T/S B.H 3 × 15) Located on the tuner PCB.

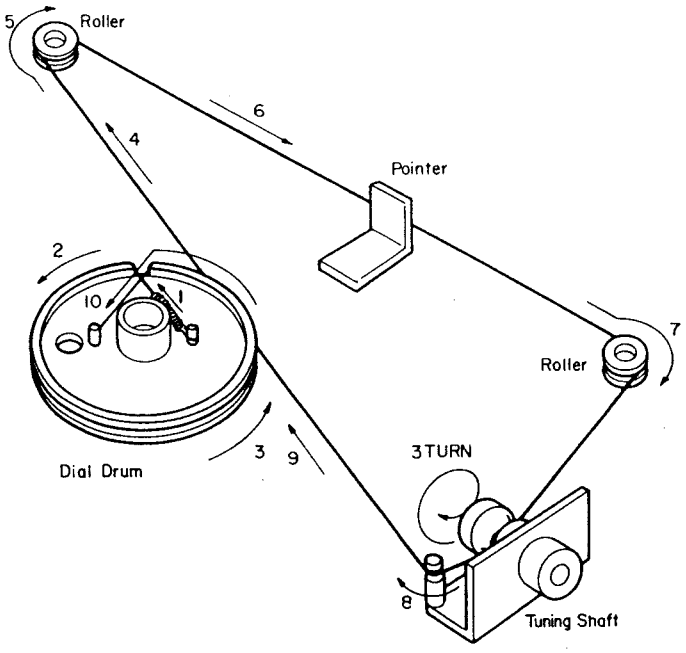


4) MAIN PCB

Remove 4 screw (T/S B.H 3 × 15) Located on the Mian PCB.



HOW TO FIT DIAL STRING



1. Set the poly varicon (Variable Capacitor) on maximum capacity.
2. Input Dial Drum at the top cabinet.
3. Fit the dial string in accordance with as shown fig number.
4. wind the string around the tuning shaft 3 turns and dial drum 1 turn.
5. Please the pointer on the rail and fix to the dial string.

ADJUSTING THE TUNER

This cassette radio has been aligned at the factory and normally will not require further adjustment. As a result, it is not recommended that any attempt is made to modify any circuit. If any parts are replaced or if anyone tampers with the adjustment, realignment may be necessary.

A) ADJUSTING IF SECTION

1. Connect the output of sweep generator set to **455KHz** to the am input (IC-2) of circuit board.
2. Connect the input of sweep generator to the detector output (IC-3: pin 13).
3. Adjust the core of ift T-2 (AA) so that output is at max and symmetry.

B) ADJUSTING TRACKING AND SENSITIVITY

1. Connect the generator set to 600KHz modulation of 30% at 400Hz to a antenna terminal.
2. Connect VTVM or speaker terminal.
3. Set dial pointer to **600KHz** on the dial calibration.
4. Adjust the osc (L-3) and ferrite bar antenna so that output is at max.
5. Connect generator set to 1400KHz modulation of 30% at 400Hz to antenna terminal.
6. Connect VTVM or speaker terminal.
7. Set dial pointer to **1400KHz** on the dial calibration.
8. Adjust trimmer TC-3 so that output is at max.

FM ALIGNMENT

a) ADJUSTING IF SECTION

1. Connect FM if sweep generator set to **10.7MHz** to the FM input (IC-1) : pin 3.
2. Connect oscillocope to the FM detector out (IC-3 : pin 2).
3. Adjust the primary and secondary of T-1 (FA), T-3 (FD) so that wave form to be "S" curve.

B) ADJUST TRACKING AND SENSITIVITY

1. Connect FM standard signal generator output to the antenna terminal and connect the speaker terminal to VTVM.
2. Set FM standard signal generator to 87.35MHz and tune in.
3. Set dial pointer to **87.35MHz** on the dial calibration.
4. Adjust coil (L1) so that output is at max.
5. Set FM standard signal generator to **108.25MHz** the moduration of 400Hz the deviation of 75KHz and the input 60dB.
6. Set the dial pointer to 108.25MHz on the dial calibration.
7. Adjust trimmer FM (TC-1) so that output is at max.

ITEM	STEP	INSTRUMENT	SET SIGNAL TO	TEST POINT		SET RADIO TO	ADJUST POINT	ADJUST FOR
				INPUT TERMINAL	OUTPUT TERMINAL			
AM IF	1	AM If Sweep Generator and Oscilloscope AM If Genescope	455KHz	AM If Input (IC-2)	Detector Output (IC-3:Pin13)	AM Band 516KHz (Low End)	T-2 (AA)	Max Output
AM Tracking	1		516KHz	Ant Input Terminal		(Low End) 516KHz	L-4	
	2		1625.5KHz			(High End) 1625.5KHz	TC-4	
	3		600KHz			600KHz	L-3	
	4		1400KHz			1400KHz	TC-3	
FM IF	1	FM If Sweep Generator Oscilloscope or FM If Generator	10.7MHz	FM If Input (IC-1 Pin:3)	FM Detec-Tor Output (IC-3 Pin:2)	87.35MHz (Low)	T-1 (FA) T-3 (FD)	Max Gain Symmetrical "S" Curve
FM Tracking	1	FM SSG (400Hz, 22.5KHz) and VTVM.	87.35MHz	Ant Input Terminal	Speaker Output Terminal or Detector Output	87.35 (Low)	L-1	Max Output
	2		108.25MHz			108.25MHz (High)	TC-1	
	3		90MHz			90MHz	L-1 (RF Coil)	
	4		106MHz			106MHz	TC-1	
FM MPX		Frequency Counter FM Stereo	IC-3 (Pin-12)				SVR-1	Frequency 19KHz

Tape head and capstan cleaning

1. Periodically clean the tape head, capstan drive shaft and other tape handling surfaces to insure proper tape handling and optimum frequency response.
2. Use a cotton swab lipped in head cleaner or denatured alcohol to clean all tape handling surfaces. Wipe dry.

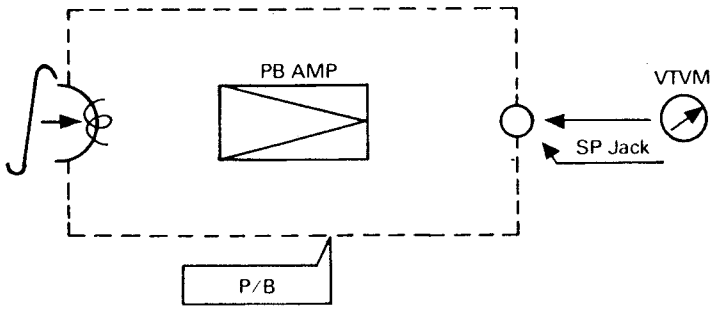
Tape head demagnetization

When servicing tape unit, do not use magnetized screwdrivers or wrenches near the tape head since they can magnetize the head. A magnetized head will result in loss of high frequency response and increased noise.

Head adjustment

Head adjustment is normally required when the head is replaced or for cases of cross-talk and poor high frequency response.

AZIMUTH ADJUSTMENT



Input	Adjust for	Adjustment
MTT-113 (6.3kHz)	Maximum	Azimuth Adjusting screw

HIGH SPEED ADJUSTMENT

NORMAL SPEED

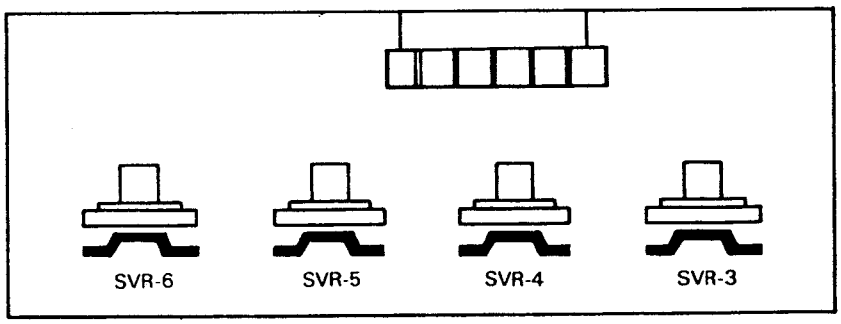
1. Connect a frequency counter to the speaker Jack. The dummy load should be 4 ohm.
2. Set the function switch to tape position.
3. Insert a 3KHz test tape (MTT-111) Into the A cassette compartment. Playback A test tape and adjust semi volume (SVR5) As illustrated to display 3015Hz (2940-3090Hz) on the counter.
4. Insert a 3KHz test tape (MTT-111) Into the B cassette compartment. Playback A test tape and adjust semi volume (SVR3) As illustrated to display 3015Hz (2940-3090Hz) on the counter.
   The speed deviation should be within 30Hz between tape A and tape B.

HIGH SPEED

1. Insert a 3kHz test tape (MTT-111) Into the A cassette compartment. Playback A test tape and adjust semi volume (SVR6) As illustrated to display 6050Hz (5880-6180) on the counter.
2. Insert a 3KHz test tape (MTT-111) Into the B cassette compartment. Playback A test tape and adjust semi volume (SVR4) As illustrated to display 6050Hz (5880-1680) on the counter.
   The speed deviation should be within 60Hz between tape A and Tape B.

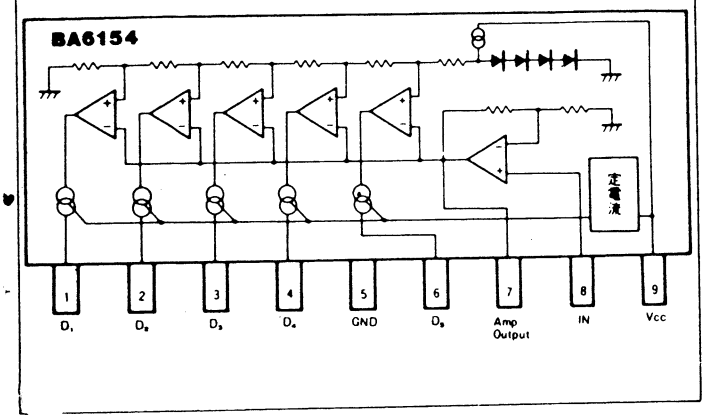
REMARKS: When adjusting the speed, proceed in A sequence of normal speed-High speed.

*** Adjustment Point**

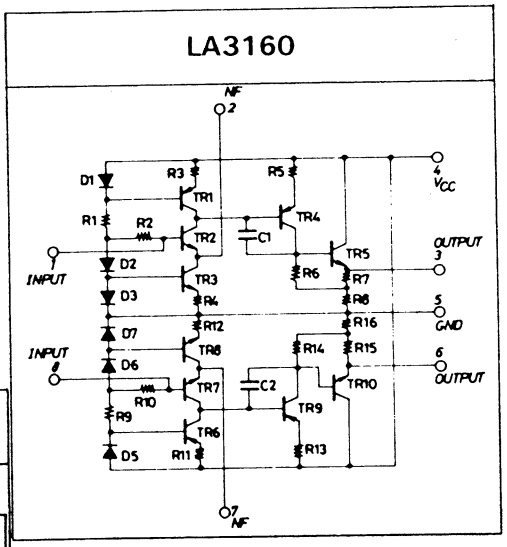


SEMICDNDUCTOR INSTRUCTION

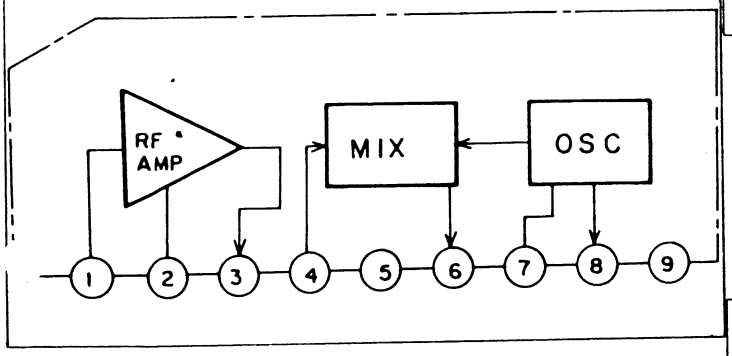
BA6154



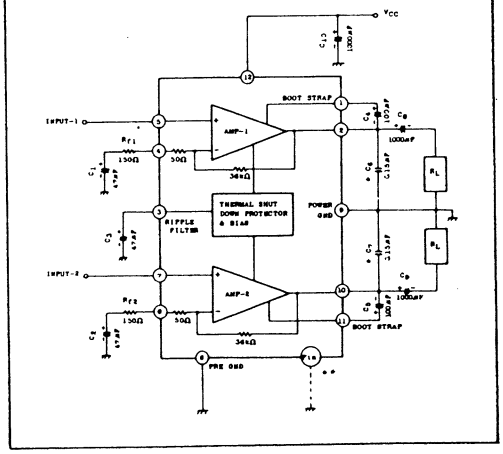
LA3160



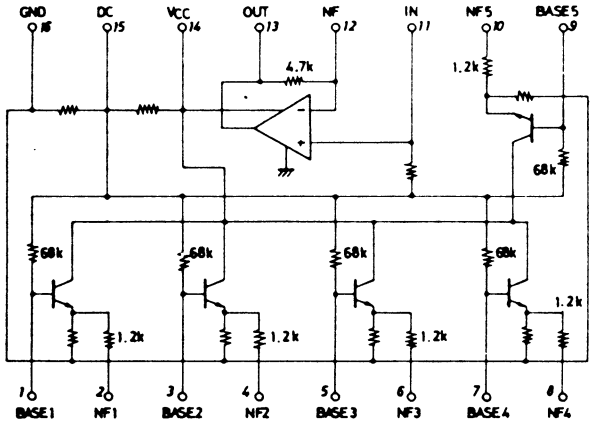
AN7205E



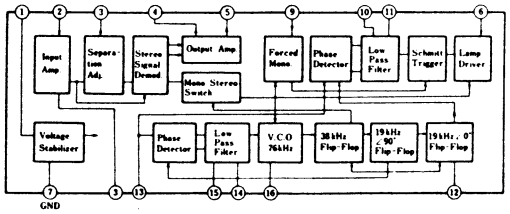
TA7233P



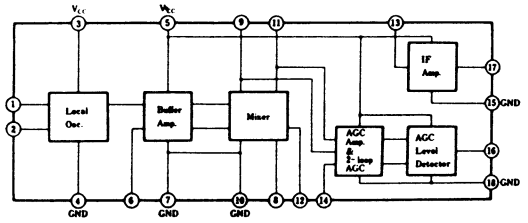
LA3600



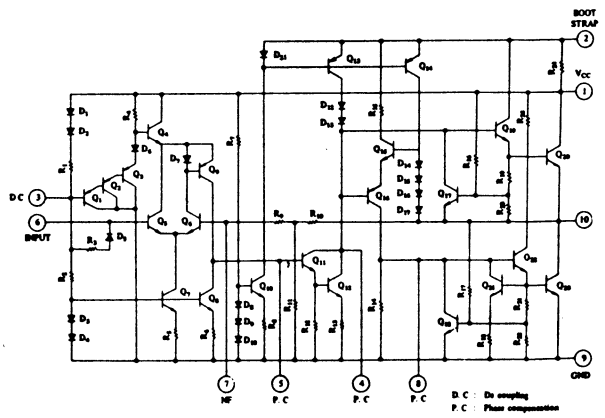
AN 7410N



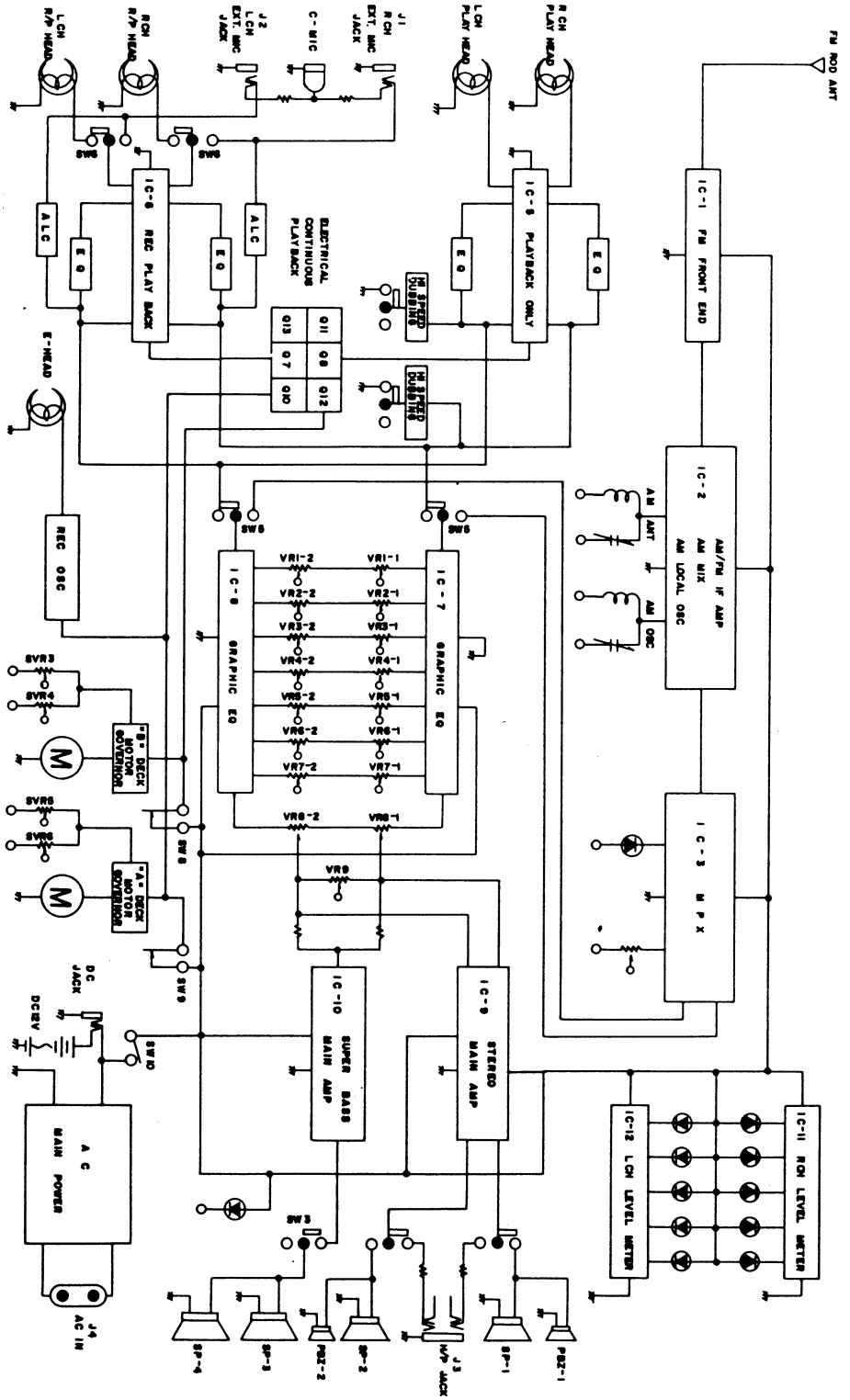
AN7224



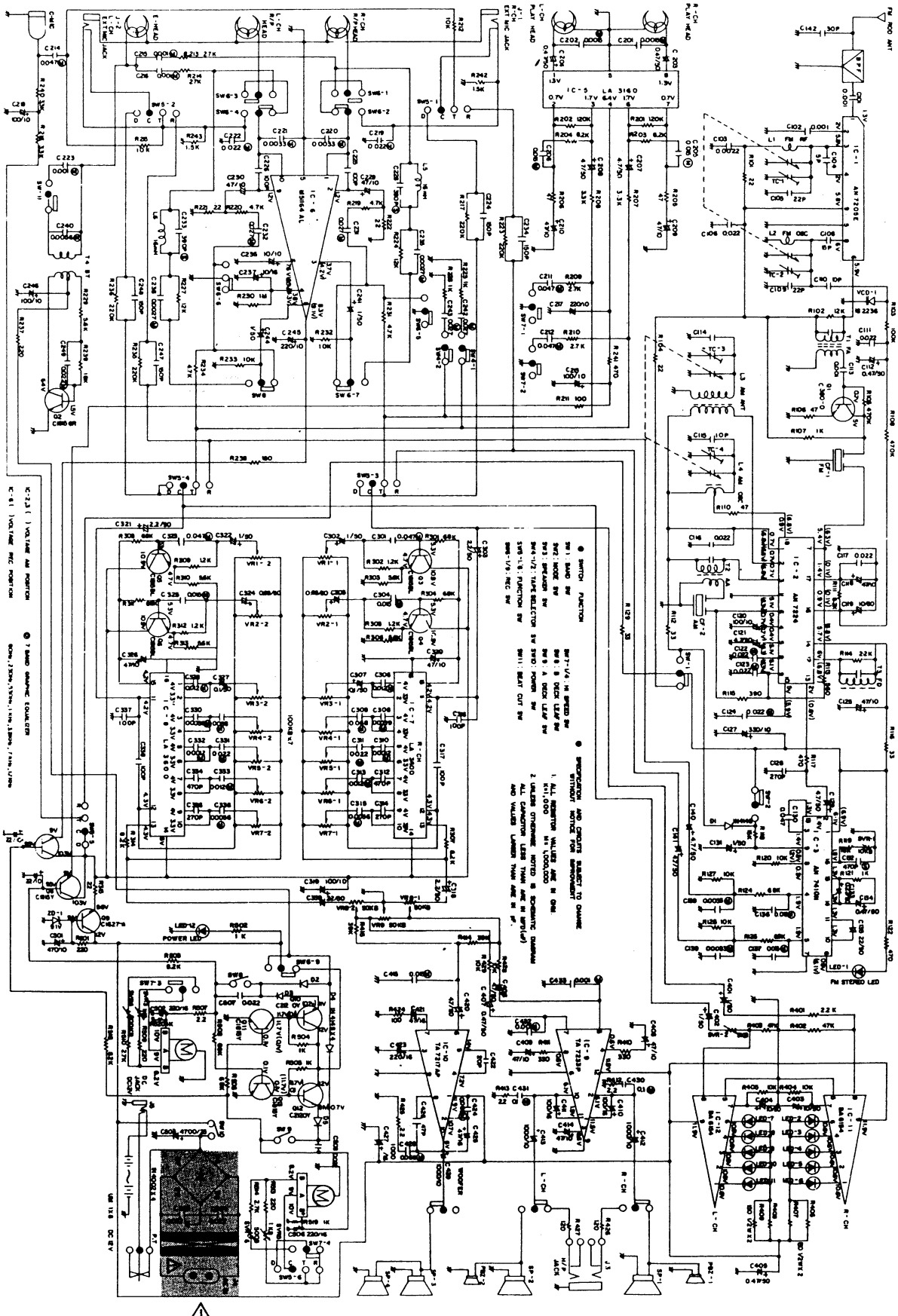
KIA7217AP



BLOCK DIAGRAM

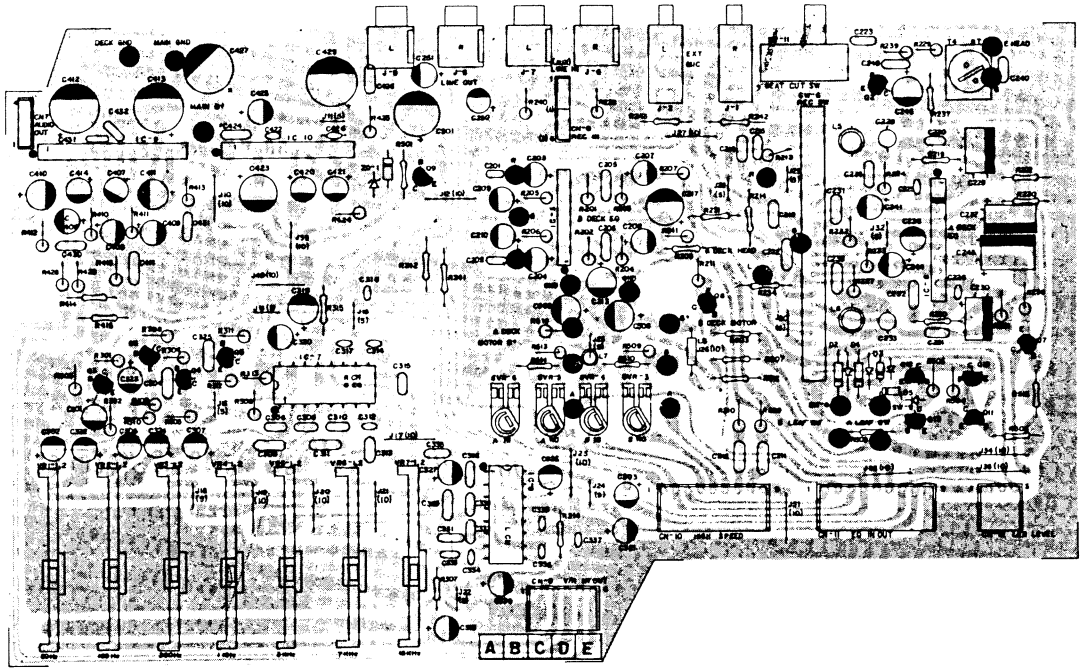


SCHEMATIC DIAGRAM

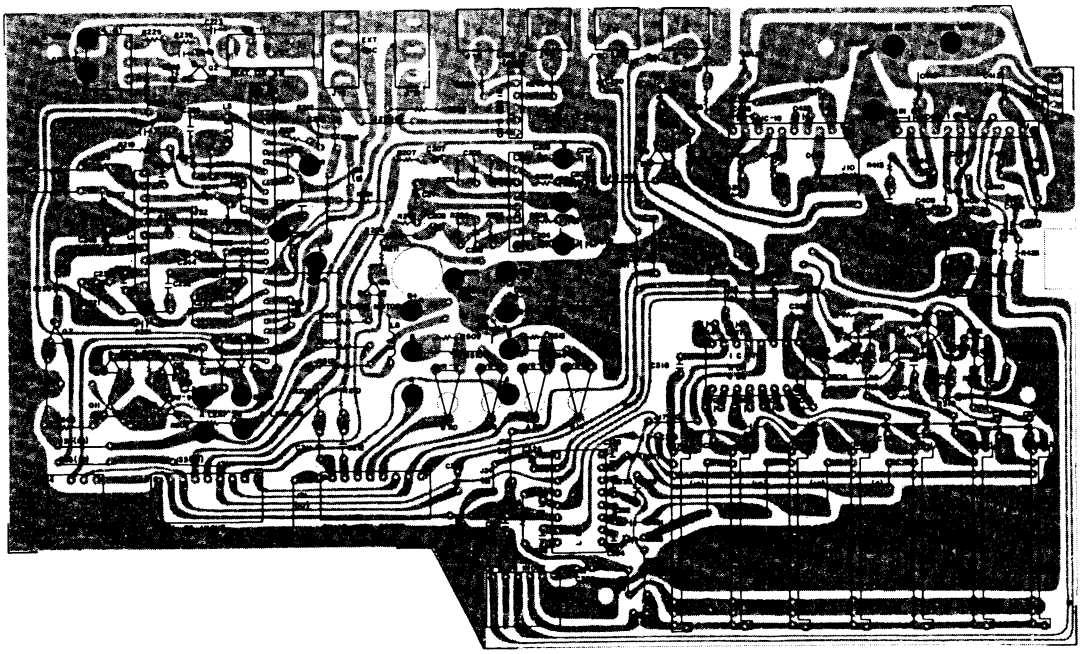


P.C. BOARD VIEW

MAIN P.C. BOARD

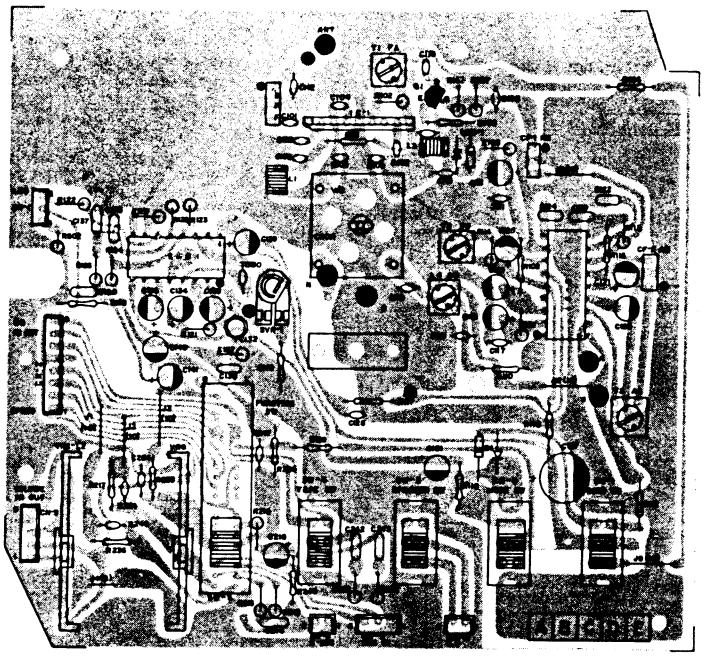


(TOP VIEW)

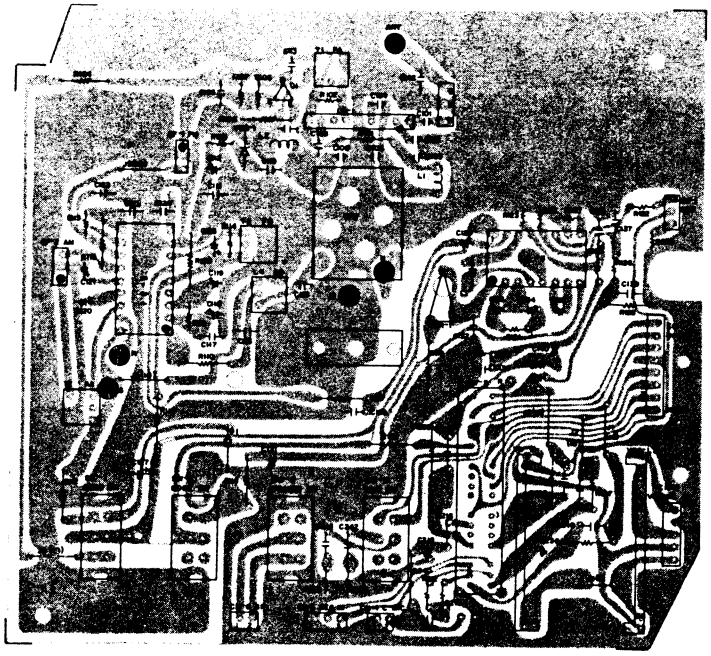


(BOTTOM VIEW)

TUNER P.C. BOARD

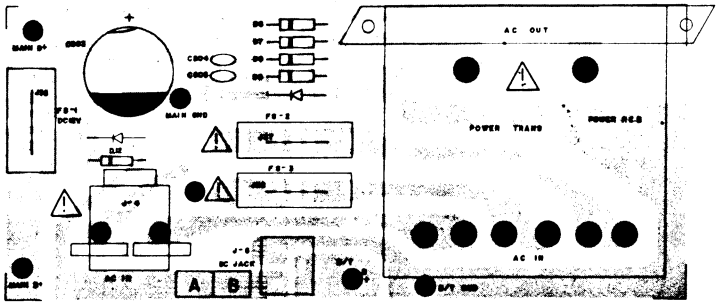


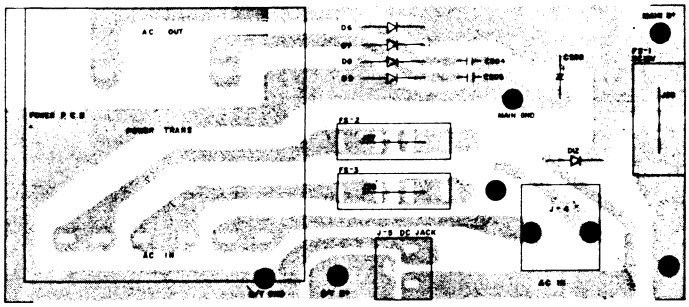
(TOP VIEW)



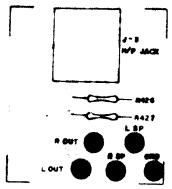
(BOTTOM VIEW)

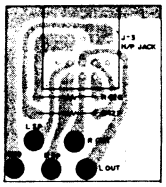
POWER P.C. BOARD



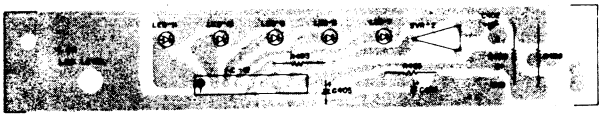


HEADPHONE JACK P.C. BOARD

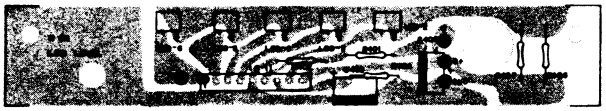




LED P.C. BOARD (R)

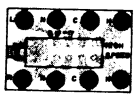


LED P.C. BOARD (L)

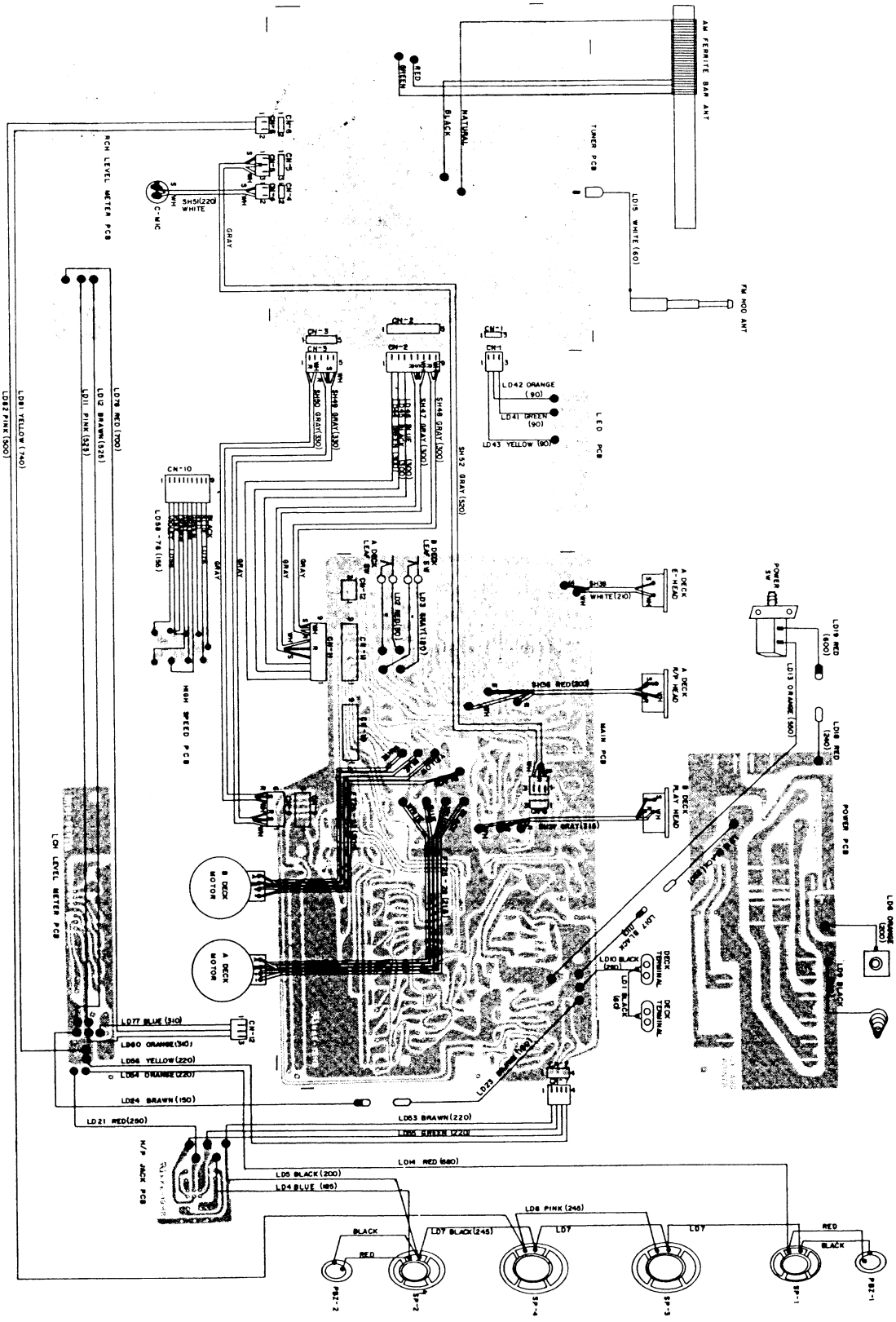


LED P.C. BOARD

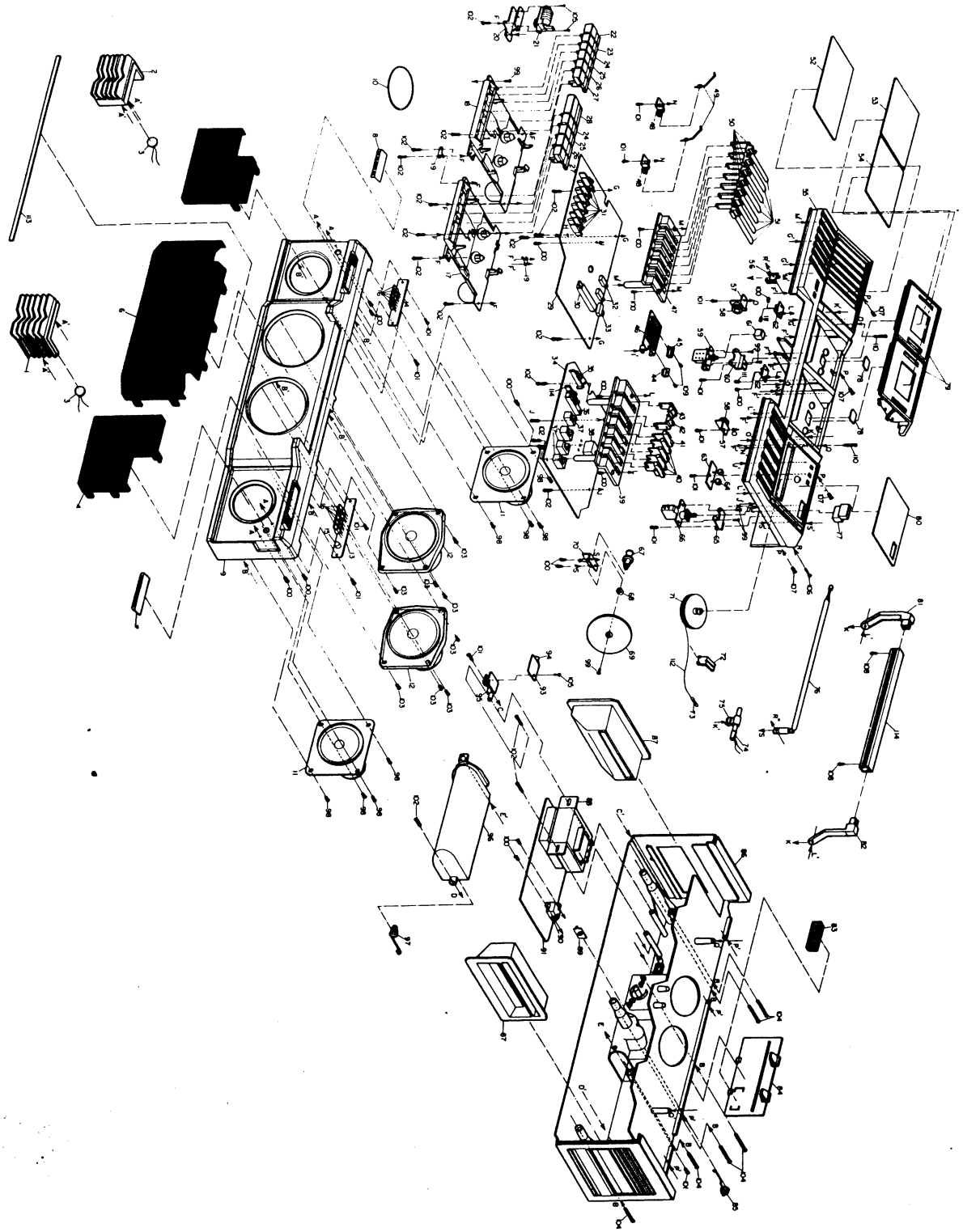
HIGH SPEED P.C. BOARD



WIRING DIAGRAM

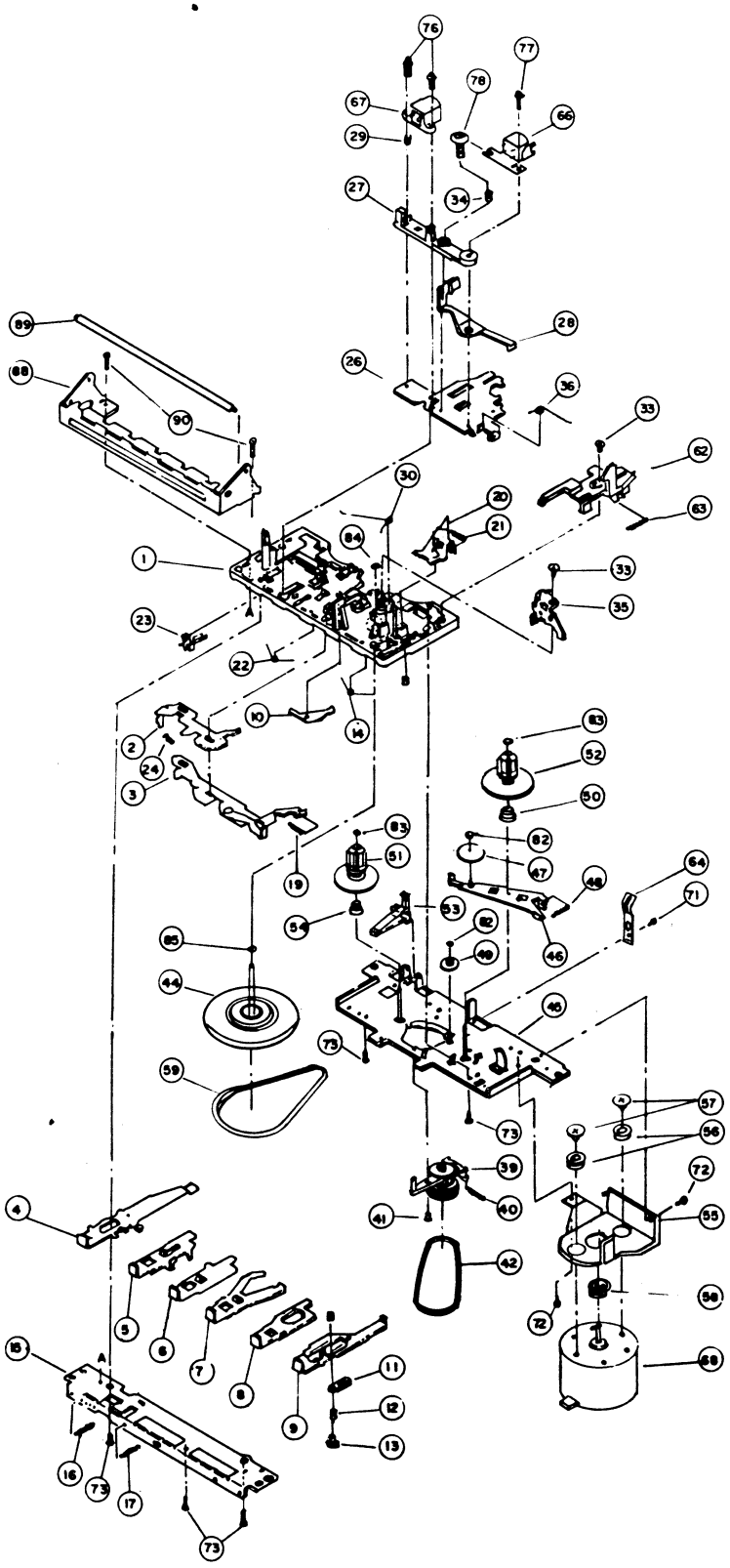


EXPLODED VIEW



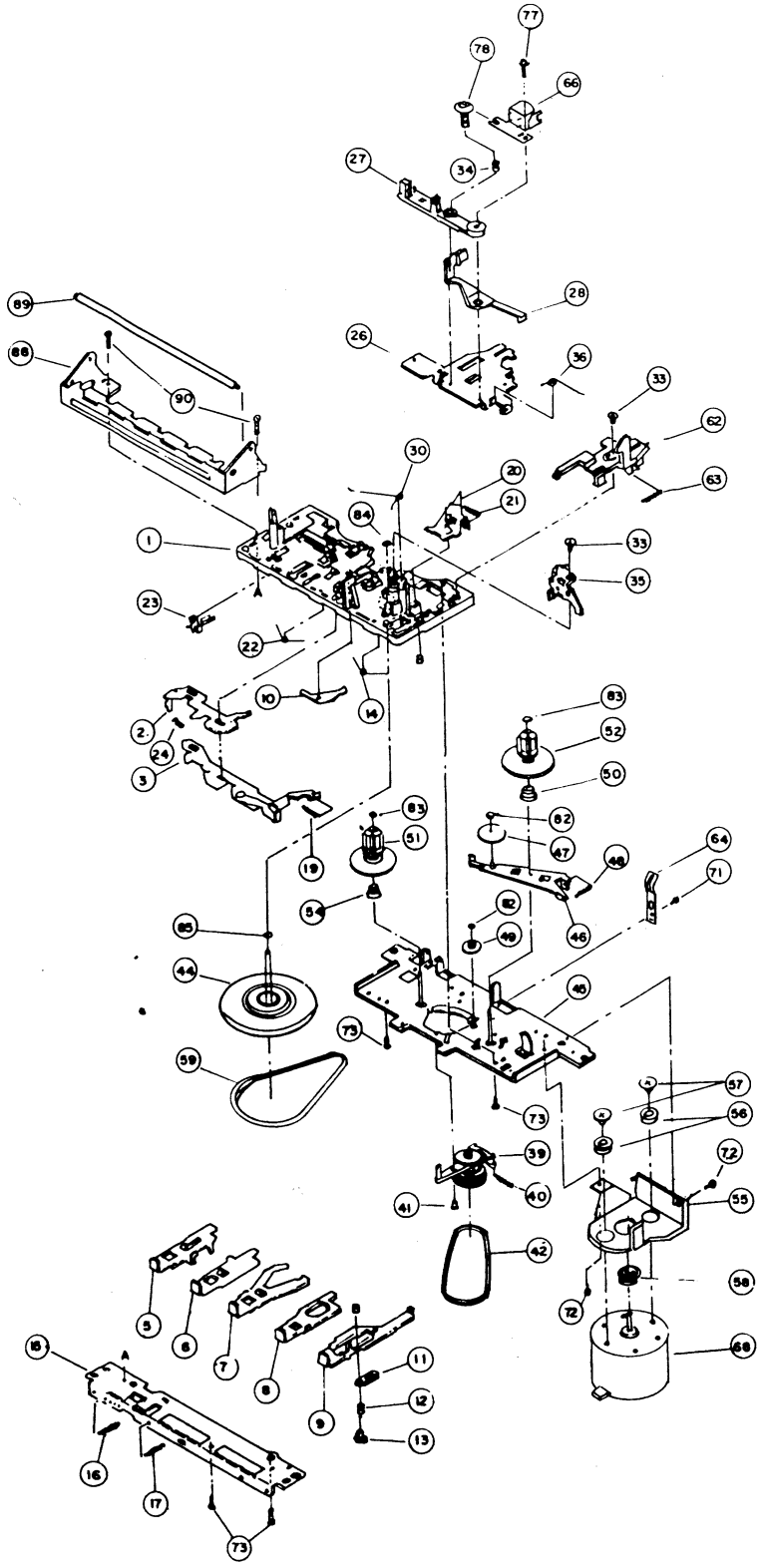
DECK EXPLODED VIEW

DECK "A" (REC)



No.	PARTS NAME	DESCRIPTION	Q'TY
1	MAIN BASE ASS'Y	1821 01 60	1
2	SWITCH PLATE	1821 01 05	1
3	PUSHBUTTON ACTUATOR ASS'Y	1821 01 501	1
4	REC BUTTON LEVER	1821 01 284	1
5	PLAY BUTTON LEVER	1821 01 35	1
6	RWD BUTTON LEVER	1821 01 30	1
7	FF BUTTON LEVER	1821 01 31	1
8	STOP BUTTON LEVER	1821 01 32	1
9	PAUSE BUTTON LEVER ASS'Y	1821 01 503	1
10	RWD LEVER	1821 01 68	1
11	PAUSE LEVER	1821 01 15	1
12	PAUSE LEVER SPRING	1821 01 16	1
13	PAUSE STOPPER	1821 01 34	1
14	BUTTON LEVER SPRING(C)	1821 01 23	1
15	SUB CHASSIS	1821 01 19	1
16	BUTTON LEVER SPRING(A)	1821 01 07	1
17	PLAY BUTTON LEVER SP'S	1821 01 50	1
18	REC SPRING PLATE	1510 02 02	1
19	ACTUATOR SPRING	1821 01 22	1
20	AUTO LEVER	1821 01 20	1
21	AUTO LEVER SPRING	1821 01 21	1
22	BUTTON LEVER SPRING(B)	1821 01 48	1
23	LEAF SWITCH	MSW-1541	1
24	SW PLATE SP	1821 01 38	1
25			
26	HEAD PANEL	1829 03 04	1
27	HEAD BASE	1829 05 02	1
28	SENSING PLATE ASS'Y	1829 03 30	1
29	E.H. SPRING	1821 03 08	1
30	HEAD PANEL SPRING	1821 03 12	1
31			
32			
33	P.M.F. SCREW	1821 13 05	3
34	SPRING	1821 03 07	1
35	PINCH ROLLER ASS'Y	1821 04 30	1
36	PINCH ROLLER SPRING	1821 04 02	1
37			
38			
39	RF PULLEY ARM ASS'Y	1821 07 301	1
40	RF PULLEY ARM SPRING	1821 07 04	1
41	RF ARM COOLER SCREW	1867 04 13	1
42	RF BELT	1821 07 05	1
43			
44	FLYWHEEL ASS'Y	1821 09 301	1
45	REEL BASE ASS'Y	1829 10 304	1
46	TAKE-UP GEAR PLATE ASS'Y	1821 10 505	1
47	TAKE-UP ROLLER GEAR	1867 03 10	1
48	T.G PLATE SPRING	1821 10 08	1
49	FF GEAR	1867 03 09	1
50	BACK TENSION SPRING	1821 10 12	1
51	SUPPLY REEL ASS'Y	1821 10 304	1
52	TAKE-UP REEL ASS'Y	1829 10 302	1
53	RECORD SAFETY LEVER	1800 02 01	1
54	BACK TENSION SPRING	1800 05 17	1
55	MOTOR BRACKET	1821 12 10	1
56	MOTOR RUBBER	1820 13 06	2
57	MOTOR COLLERSCREW	1821 12 02	2
58	MOTOR PULLEY	1821 12 32	1
59	MAIN BELT	1720 09 05	1
60			
61			
62	EJECT SLIDE LEVER	1821 13 05	1
63	EJECT SLIDE LEVER SP	1821 13 06	1
64	PACK SPRING	1829 10 01	1
65			
66	R.P HEAD		1
67	E. HEAD		1
68	MOTOR		1
69			
70	TAMS SCREW M2x3	9076-00-00	1
71	C TAPPING SCREW M2x3	9179-00-00	1
72	C TAPPING SCREW M3x4	9180-00-00	2
73	P TAPPING BING SCREW M2x4	9716-00-00	5
74			
75			
76	CAP SCREW M2x8	9821-00-00	2
77	CAP SCREW M2x7	9820-00-00	1
78	AZIMUTH SCREW	9922-00-00	1
79			
80			
81			
82	P WASHER OUT 1.2x3x0.25	9421-00-00	2
83	P WASHER OUT 1.2x3x0.4	9888-00-00	2
84	P WASHER OUT 1.55x3.6x0.5	9875-00-00	1
85	P WASHER CUT 2.0D x 4 x0.4	9937-00-00	1
86			
87			
88	B FLAME (S)	1821 31 06	1
89	BUTTON LEVER SHAFT	1829 31 03	1
90	SCREW FOR CAMERA M2x7	9882-00-00	2
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

DECK "B" (PLAY ONLY)



No.	PARTS NAME	DESCRIPTION	Q'TY
1	MAIN BASE ASS'Y	1821 01 60	1
2	SWITCH PLATE	1821 01 05	1
3	PUSH BUTTON ACTUATOR ASS'Y	1821 01 501	1
4			
5	PLAY BUTTON LEVER	1821 01 35	1
6	RWD BUTTON LEVER	1821 01 30	1
7	FF BUTTON LEVER	1821 01 31	1
8	STOP BUTTON LEVER	1821 01 32	1
9	PAUSE BUTTON LEVER ASS'Y	1821 01 503	1
10	RWD LEVER	1821 01 68	1
11	PAUSE LEVER	1821 01 15	1
12	PAUSE LEVER SPRING	1821 01 16	1
13	PAUSE STOPPER	1821 01 34	1
14	BUTTON LEVER SPRING (C)	1821 01 23	1
15	SUB CHASSIS	1821 01 19	1
16	BUTTON LEVER SPRING(A	1821 01 07	1
17	PLAY BUTTON LEVER SP(S	1821 01 50	1
18	REC SPRING PLATE	1510 02 02	1
19	ACTUATOR SPRING	1821 01 22	1
20	AUTO LEVER	1821 01 20	1
21	AUTO LEVER SPRING	1821 01 21	1
22	BUTTON LEVER SPRING(E	1821 01 48	1
23	LEAF SWITCH	MSW-1541	1
24	SW PLATE SP	1821 01 38	1
25			
26	HEAD PANEL	1829 03 04	1
27	HEAD BASE	1829 03 02	1
28	SENSING PLATE ASS'Y	1829 03 301	1
29			
30	HEAD PANEL SPRING	1821 03 12	1
31			
32			
33	P.M.E. SCREW	1821 13 06	3
34	SPRING	1821 08 07	1
35	PINCH ROLLER ASS'Y	1821 04 301	1
36	PINCH ROLLER SPRING	1821 04 03	1
37			
38			
39	RF PULLEY ARM ASS'Y	1821 07 301	1
40	RF PULLEY ARM SPRING	1821 07 04	1
41	RF ARM COOLLER SCREW	1867 04 13	1
42	RF BELT	1821 07 05	1
44			
44	FLYWHEEL ASS'Y	1821 09 301	1
45	REEL BASE ASS'Y	1829 10 504	1
46	TAKE-UP GEAR PLATE ASS'Y	1821 10 503	1
47	TAKE-UP ROLLER GEAR	1867 03 10	1
48	T.G PLATE SPRING	1821 10 08	1
49	FF GEAR	1867 03 09	1
50	BACK TENSION SPRING	1821 10 12	1
51	SUPPLY REEL ASS'Y	1821 10 301	1
52	TAKE-UP REEL ASS'Y	1829 10 302	1
53			
54	BACK TENSION SPRING	1800 08 17	1
55	MOTOR BRACKET	1821 12 10	1
56	MOTOR RUBBER	1820 13 06	2
57	MOTOR COLLERSCREW	1821 12 02	2
58	MOTOR PULLEY	1821 12 32	1
59	MAIN BELT	1720 09 05	1
60			
61			
62	EJECT SLIDE LEVER	1821 13 06	1
63	EJECT SLIDE LEVER SP	1821 13 02	1
64	PACK SPRING	1829 10 01	1
65			
66	R.P. HEAD		1
67			
68	MOTOR		1
69			
70	TAMS SCREW M2x3	9076-00-00	1
71	C TAPPING SCREW M2x3	9179-00-00	1
72	C TAPPING SCREW M2x4	9180-00-00	2
73	P TAPPING BIND SCREW M2x4	9716-00-00	5
74			
75			
76			
77	CAP SCREW M2x7	9820-00-00	1
78	AZIMUTH SCREW	9922-00-00	1
79			
80			
81			
82	P WASHER OUT 1.2x3x0.25	9421-00-00	2
83	P WASHER OUT 1.2x3x0.4	9888-00-00	2
84	P WASHER OUT 1.55x3.8x0.5	9875-00-00	1
85	P WASHER OUT 2.05x4 ±0.4	9937-00-00	1
86			
87			
88	ⓑ FLAME (S)	1821 31 06	1
89	BUTTON LEVER SHAFT	1829 31 03	1
90	SCREW FOR CAMERA M2X7	9882-00-00	2
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

ELECTRICAL PARTS LIST

REF. NO	DESCRIPTION	Q'TY
INTEGRATED CIRCUITS		
IC-1	AN7205E (TA7358AP) IC (RF)	1
IC-2	AN7224 IC (IF)	1
IC—3	AN7410N (BA1332) IC (MAX)	1
IC-6	MS1164AL IC (REC-EQ)	1
IC-5	LA3160 (KA1222) IC (PLAY-EQ)	1
IC-7,8	LA3600 IC (GRAPHIC-EQ)	2
IC-11,12	BA6154 IC (LED LEVEL)	2
IC-9	TA7233P IC (STEREO AUDIO)	1
IC-10	KIA7217AP IC (MONO AUDIO)	1
TRANSISTOR		
Q1	KTC380-O TRANSISTOR	1
Q3, Q4, Q5, Q6	KTC1815-BL TRANSISTOR	4
Q2	KTC1815-GR TRANSISTOR	1
Q7, Q8 Q11, Q13	KTC1815-Y TRANSISTOR	4
Q10, Q12	KTC2120-Y TRANSISTOR	2
Q9	KTC1627A-Y TRANSISTOR	1
DIODE		
ZD-2	BZX83-C5V6 DIODE (ZENER)	1
D6, D7, D8 D9, D12	IN4002 DIODE (RECTIFIER)	4 or 5
ZD-1	BZX83-C9V1 DIODE (ZENER)	1
D1, D2, D3 D4, D5	1N4148 DIODE (SWITCHING)	5
VCD-1	KDS2236 DIODE (AFC)	1
LED-2,3,4,5,6,7 LED-8,9,10,11	SLB25VR3 (RED) 2x5 DIODE (L.E.D)	10
LED-1,12	L503HD (RED) 5x5 DIODE (L.E.D)	2
COIL & TRANSFORMER		
T-1	850FA IFT (FA) 7m/m TYPE	1
T-3	850FD IFT (FD) 7m/m TYPE	1
T-2	850AA IFT (AA) 7m/m TYPE	1
L-4	Q7(M)AO AM OSC COIL	1
T-4	Q7BT REC BIAS OSC COIL	1
L-1	4c x 4t x 0.7m/m SPRING COIL	1
L-2	3.5c x 5t x 0.7m/m SPRING COIL	1
L-3	650uH AM ANT COIL	1
L-5,6	16mH TRAP COIL	2
CONNECTOR		
CN4,6	2pin (V TYPE) CONNECTOR WAFER	2
CN4,6	2pin (V TYPE) CONNECTOR HOUSING	2
CN5,8,1	3pin (V TYPE) CONNECTOR WAFER	3
CN5,8,1	3pin (V TYPE) CONNECTOR HOUSING	3
CN7	4pin (V TYPE) CONNECTOR WAFER	1
CN7	4pin (V TYPE) CONNECTOR HOUSING	1
CN12	3pin (H TYPE) CONNECTOR WAFER	1
CN12	3pin (H TYPE) CONNECTOR HOUSING	1
CN3	5pin (V TYPE) CONNECTOR WAFER	1
CN3	5pin (V TYPE) CONNECTOR HOUSING	1
CN9	6pin (H TYPE) CONNECTOR WAFER	1
CN9	6pin (H TYPE) CONNECTOR HOUSING	1
CN2	8pin (V TYPE) CONNECTOR WAFER	1
CN2	8pin (V TYPE) CONNECTOR HOUSING	1
CN10,11	9pin (H TYPE) CONNECTOR WAFER	2
CN10,11	9pin (H TYPE) CONNECTOR HOUSING	2

REF. NO	DESCRIPTION	Q'TY
SWITCHE & JACK		
SW-5	SS083D01G9 SLIDE SWITCH	1
SW-1,2,3,4	SS-22F48G9 SLIDE SWITCH	4
SW-11	SK-22F03G9 SLIDE SWITCH	1
SW-6	00920110 SLIDE SWITCH	1
SW-10	ESB8213V PUSH SWITCH	1
SW-7	TR2321442 PUSH SWITCH	1
J-1,2	HCY3502NT EXT MIC JACK	2
J-3	HSJ1074-01-440 HEAD PHONE JACK	1
J-5	DCP-20 EXT DC JACK	1
J-4	HSC1463 01-010 POWER SOCKET (UL)	1 or 0
J-4	HSC1464-01-010 POWER SOCKET (VDE)	1 or 0 ⚠
	UL, VDE 6feet AC CORD/W PLUG/W CON	0
	UL, VDE 6feet AC CORD/W PLUG	1 or 0
MISCELLANEOUS		
PBZ-1,2	EFB-S77D42A3(150m/m) PIEZO TWEET	2
BPF	EXC-88198LE BAND PASS FILTER	1
CF-1	SFE10.7MA5 FM CERAMIC FILTER	1
CF-2	SFU455B AM CERAMIC FILTER	1
P.V.C	PVC-2LXT-L (6140) POLY VARICON	1
C-MIC	WM-034CY CON DENSER MIC	1
	T3SG080-075B1-733 TAPE COUNTER	1
ANT	3B324B ROD ANTENNA	1
P.T	EI-57 (PIN TYPE) POWER TRANSFORMER	1 ⚠
SP-3,4	8 ohm 20W (FD-1304) SPEAKER 5 1/4 inch	2
SP-1,2	4 ohm 5W (FS-1007) SPEAKER 4 inch	2
VOLUME		
VR-8	EWA-SE2T50B54 SLIDE VOLUME	1
VR-9	EWA-SJ2T50B54 SLIDE VOLUME	1
VR-1,2,3, 4,5,6,7	EWA-SA2T50B15 SLIDE VOLUME	7

REF. NO	DESCRIPTION	Q'TY
CAPACITOR		
C215, C216		
C223, C433	50V 0.001K MYLAR	5
C432		
C310, C332	50V 0.0012K MYLAR	2
C235, C238	50V 0.0027K MYLAR	2
C138, C139	50V 0.0033K MYLAR	2
C308, C330	50V 0.0039K MYLAR	2
C315, C335	50V 0.0056K MYLAR	3
C240	50V 0.033K MYLAR	
C306, C328	50V 0.012K MYLAR	4
C313, C333		
C136, C137		
C205, C206	50V 0.015K MYLAR	5
C414		
122, C123		
C124, C249		
C311, C331	50V 0.022K MYLAR	10
C231, C232		
C219, C222		
C242, C243	50V 0.027K MYLAR	2
C304, C325	50V 0.039K MYLAR	2
C211, C212	50V 0.047K MYLAR	3
C214		
C309, C329	50V 0.068K MYLAR	4
C424, C428		
C430, C431	50V 0.1K MYLAR	2
C201, C202	50V 0.0015K MYLAR	2
C220, C221	50V 0.0022K MYLAR	2
C142	30pF (CH) J CERAMIC	1
C105, C109	22pF (CH) J CERAMIC	2
C104	5pF (CH) C CERAMIC	1
C115, C110	10pF (CH) C CERAMIC	2
C108	15pF (CH) J CERAMIC	1
C422	20pF (SL) J CERAMIC	1
C426	47pF (SL) J CERAMIC	1
C224, C234		
C247, C249		
225, C226	100pF (B) K CERAMIC	10
C337, C338		
C317, C316		
C314, C336	270pF (B) K CERAMIC	3
C128	150pF (B) K CERAMIC	0
C312, C334	470pF (B) K CERAMIC	2
C101, C102	0.001 (B) K CERAMIC	3
C113		
C106, C111		
C116, C117	0.022 (F) Z 8c CERAMIC	6
C504, C505		
C130	0.047 (F) Z 8c CERAMIC	1
C103	0.0022 (B) K CERAMIC	1
C301, C323	0.1/50 SM TYPE ELECTROLYTIC	2
C307, C327	0.22/50 SM TYPE ELECTROLYTIC	2
C112, C133		
C134, C203	0.47/50 SM TYPE ELECTROLYTIC	5
C405		
C131, C241		
C244, C302	1/50 SM TYPE ELECTROLYTIC	7
C401, C402		
C322		
C303, C321		
C318, C339	2.2/50 SM TYPE ELECTROLYTIC	5

REF. NO	DESCRIPTION	Q'TY
C135		
C121, C129		
C140, C141		
C207, C208	4.7/50 SM TYPE ELECTROLYTIC	9
C406, C407		
C420		
C119, C236		
C403, C404	10/50 SM TYPE ELECTROLYTIC	5
C237		
C305, C324	0.68/50 SM TYPE ELECTROLYTIC	2
C118, C125		
C209, C210		
C229, C230	47/10 SM TYPE ELECTROLYTIC	1
C320, C326		
C408, C409		
C414		
C421, C425	47/16 SM TYPE ELECTROLYTIC	2
C120, C218		
C246, C213	100/10 SM TYPE ELECTROLYTIC	5
C319		
C410, C411	100/16 SM TYPE ELECTROLYTIC	3
C405		
C217, C245	220/10 SM TYPE ELECTROLYTIC	2
C423, C502	220/16 SM TYPE ELECTROLYTIC	3
C506		
C127	330/10 SM TYPE ELECTROLYTIC	1
C501	470/10 SM TYPE ELECTROLYTIC	1
C412, C413	1000/10 SM TYPE ELECTROLYTIC	3
C429		
C427	1000/16 SM TYPE ELECTROLYTIC	1
C503	4700/25 SM TYPE ELECTROLYTIC	1
C249, C250	22/10 SM TYPE ELECTROLYTIC	2
C132	470pF J 50K STYROL	1
C228, C233	390pF J 50K STYROL	2
RESISTOR		
R507, R512	1/4WJ (S) 2.2 ohm PS FIRE	
R406, R407	1/2WJ 150 ohm PS CARBON	4
R408, R409		
R412, R413	1/2WJ 2.2 ohm PR CARBON	3
R425		
R221	1/4WJ (S) 22 ohm PR CARBON	1
R101, R104	1/4WJ (S) 22 ohm PS CARBON	4
R222, R315		
R112, R116	1/4WJ (S) 33 ohm PS CARBON	3
R129		
R205, R206	1/4WJ (S) 47 ohm PR CARBON	2
R106, R110	1/4WJ (S) 47 ohm PS CARBON	2
R211, R424	1/4WJ (S) 100 ohm PR CARBON	2
R426, R427	1/4WJ (S) 120 ohm PS CARBON	2
R238	1/4WJ (S) 180 ohm PR CARBON	1
R509, R513	1/4WJ (S) 220 ohm PR CARBON	2
R237, R501	1/4WJ (S) 220 ohm PS CARBON	2
R410, R411	1/4WJ (S) 330 ohm PR CARBON	2
R115	1/4WJ (S) 390 ohm PS CARBON	1
R122, R241	1/4WJ (S) 470 ohm PR CARBON	2
R117	1/4WJ (S) 470 ohm PS CARBON	1
R113	1/4WJ (S) 560 ohm PR CARBON	1
R107, R121		
R225, R226		
R519, R504	1/4WJ (S) 1K ohm PR CARBON	9
R505, R502		
R520		

REF. NO	DESCRIPTION	Q'TY
R209, R210	1/4WJ (S) 4.7K ohm PR CARBON	2
R510, R514	1/4WJ (S) 2.7K ohm PS CARBON	2
R207, R216	1/4WJ (S) 3.3K ohm PR CARBON	2
R208, R240	1/4WJ (S) 3.3K ohm PS CARBON	2
R219, R220 R231, R234 R229, R303	1/4WJ (S) 5.6K ohm PS CARBON	4
R306, R310 R313	1/4WJ (S) 5.6K ohm PR CARBON	5
R124, R126	1/4WJ (S) 6.8K ohm PR CARBON	2
R111, R203 R204, R518	1/4WJ (S) 8.2K ohm PR CARBON	4
R503, R307 R314	1/4WJ (S) 8.2K ohm PS CARBON	3
R212, R215 R232, R233 R120, R428 R429, R127	1/4WJ (S) 10K ohm PR CARBON	8
R102	1/4WJ (S) 12K ohm PR CARBON	1
R128, R404 R405	1/4WJ (S) 10K ohm PS CARBON	3
	1/4WJ (S) 5.6K ohm PS CARBON	0
R118, R214	1/4WJ (S) 15K ohm PS CARBON	2
R239	1/4WJ (S) 18K ohm PR CARBON	1
R119	1/4WJ (S) 18K ohm PS CARBON	1
R213, R224 R227	1/4WJ (S) 15K ohm PR CARBON	3
R414, R415	1/4WJ (S) 39K ohm PS CARBON	2
	1/4WJ (S) 27K ohm PS CARBON	0
R402, R403	1/4WJ (S) 47K ohm PS CARBON	2
R301, R304 R308, R311	1/4WJ (S) 68K ohm PR CARBON	4
R506, R508	1/4WJ (S) 68K ohm PS CARBON	2
R103	1/4WJ (S) 100K ohm PR CARBON	1
R201, R202	1/4WJ (S) 120K ohm PR CARBON	2
R217, R223 R235, R236	1/4WJ (S) 270K ohm PS CARBON	4
R105	1/4WJ (S) 470K ohm PR CARBON	1
R108	1/4WJ (S) 470K ohm PS CARBON	1
R230	1/4WJ (S) 1M ohm PS CARBON	1
R114	1/4WJ (S) 3.9K ohm PR CARBON	1
R302, R305 R309, R312	1/4WJ (S) 1.2K ohm PR CARBON	4
R242, R243	1/4WJ (S) 1.5K ohm PS CARBON	2
R401	1/4WJ (S) 2.2K ohm PS CARBON	1
SVR-1	8c 3pin B10K (H TYPE) SEMI FIXED RESISTOR	1
SVR-2	8c 3pin B5K (H TYPE) SEMI FIXED RESISTOR	1
SVR-4,6	8c 3pin B1K (H TYPE) SEMI FIXED RESISTOR	2
SVR-3,5	8c 3pin B500 (H TYPE) SEMI FIXED RESISTOR	2

EXPLODED PARTS LIST

NO	DESCRIPTION	Q'TY
1	TWEETER GRILLE (R)	1
2	TWEETER GRILLE (L)	1
3	PIEZO TWEET	2
4	SQUAWKER GRILLE (R)	1
5	SQUAWKER GRILLE (L)	1
6	WOOFER GRILLE	1
7	PICK LEVEL TRIM (R)	1
8	PICK LEVEL TRIM (L)	1
9	FRONT CABINET	1
10	COUNTER BELT	1
11	SPEAKER	2
12	SPEAKER	2
13	L.E.D P.C.B (R)	1
14	L.E.D P.C.B (L)	1
15	CON MIC	1
16	DIODE (L.E.D)	10
17	DECK MECHA (B)	1
18	DECK MECHA (A)	1
19	LUG TERMINAL	2
)	COUNTER BRACKET	1
21	TAPE COUNTER	1
22	DECK KNOB (REC)	1
23	DECK KNOB (PLAY "B")	1
24	DECK KNOB (REW)	2
25	DECK KNOB (F.F)	2
26	DECK KNOB (ST/EJ)	2
27	DECK KNOB (PAUSE)	2
28	DECK KNOB (PLAY "A")	2
29	P.C. BOARD	1
30	SLIDE SWITCH	1
31	SLIDE VOLUME	7
32	EXT MIC JACK	2
33	SLIDE SWITCH	1
34	P.C. BOARD (TUNER)	1
35	SLIDE VOLUME	1
36	SLIDE SWITCH	1
37	SLIDE SWITCH	4
38	POLY VARICON	1
39	FUNCTION CHASSIS	1
40	SLIDE KNOB (B)	4
41	SLIDE KNOB (A)	1
42	BALANCE KNOB	1
	VOLUME KNOB	1
44	IC (MONO AUDIO)	1
45	IC (STEREO AUDIO)	1
46	HEAT SINK	1
47	EQ CHASSIS	1
48	SPRING BRACKET	2
49	DOOR SPRING	2
50	EQ KNOB	7
51	EQ SLIDER	7
52	WINDOW	1
53	DOOR WINDOW (A)	1
54	DOOR WINDOW (B)	1
55	TOP CABINET	1
56	ANT TERMINAL	1
57	GEAR HOLDER	2
58	GEAR	2
59	PUSH SWITCH	1
60	SWITCH BRACKET (A)	1
61	SPEED KNOB	1
62	HANDLE BUSHING	2
63	LED PCB	1
64	DIODE (L.E.D)	2

NO	DESCRIPTION	Q'TY
65	SWITCH BRACKET (B)	1
66	PUSH SWITCH	1
67	TUNING SHAFT	1
68	HEX NUT	1
69	TUNING KNOB	1
70	TUNING BRACKET	1
71	DIAL DRUM	1
72	DIAL POINTER	1
73	DIAL STRING	1
74	AM ANT COIL (W CORE 80m/m)	1
75	ANTENNA HOLDER	1
76	ROD ANTENNA	1
77	POWER KNOB	1
78	TAPE MIRROR	2
79	CASSETTE DOOR	2
80	TUNING WINDOW	1
81	HANDLE ANGLE (L)	1
82	HANDLE ANGLE (R)	1
83	BATTERY CUSHION	1
84	BATTERY COVER	1
85	BATTERY SPRING (B)	1
86	BACK CABINET	1
87	SIDE PANNEL	2
88	POWER TRANS	1
89	BATTERY TERMINAL	1
90	POWER SOCKET	1
91	P.C. BOARD (POWER)	1
92	JACK BRACKET	1
93	JACK P.C.B	1
94	HEADPHONE JACK	1
95	P.C.B BRACKET	1
96	BATTERY HOUSING	1
97	BATTERY SPRING (A)	1
98	TAPPING SCREW	8
99	MACHINE SCREW	6
100	TAPPING SCREW	16
101	TAPPING SCREW	13
102	TAPPING SCREW	19
103	TAPPING SCREW	8
104	TAPPING SCREW	6
105	MACHINE SCREW	3
106	MACHINE SCREW	1
107	TAPPING SCREW	4
108	TAPPING SCREW	2
109	TAPPING SCREW	2
110	TAPPING SCREW	2
111	TAPPING SCREW	2
112	DIAL STRING	1
113	DECO COVER	1
114	HANDLE BAR	1
115		